

## PATENT ABSTRACTS OF JAPAN

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(54) TRANSPARENT OR TRANSLUCENT EMULSION COSMETIC

(57)Abstract:

PROBLEM TO BE SOLVED: To easily obtain a transparent or translucent emulsion cosmetic having excellent feeling by compounding a silicone oil having a specific viscosity in combination with a silicone-based surfactant.

SOLUTION: This cosmetic contains (A) a silicone oil having a kinetic viscosity of  $\leq 10\text{cSt}$  at  $25^{\circ}\text{C}$  and (B) a silicone-based surfactant. The component B is preferably a polyether-modified organopolysiloxane. The weight ratio of A:B is preferably 1:(0.01-2). The component A is e.g. methylpolysiloxane or fluorine-modified polysiloxane and its kinetic viscosity is preferably  $\leq 6\text{cSt}$ . The emulsion cosmetic can be stabilized by adding (C) a hydrophilic surfactant (especially preferably a polyoxyethylene-added nonionic surfactant). The weight ratio of B:C is 1:(10-0.5).

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the transparence thru/or the translucent emulsification cosmetics which blended silicon oil with stability, without performing a special mechanical process.

[0002]

[Description of the Prior Art] Conventionally, in the field of cosmetics, silicon oil is felt refreshed, does not have stickiness, has the outstanding feeling of use, and since safety is also high, it is positively used as oil of cosmetics. However, silicon oil was difficult to blend with stability into a system and to obtain transparence thru/or translucent emulsification cosmetics, without performing the special mechanical process using the emulsifier which gives powerful shearing force, such as a high-pressure homogenizer and an ultrasonic emulsifier.

[0003] Therefore, this invention can be manufactured without performing a special mechanical process, contains silicon oil in stability, and aims at offering the transparence thru/or the translucent emulsification cosmetics which gives the feel made dry [ peculiar to silicon oil ].

[0004]

[Means for Solving the Problem] In this actual condition, this invention persons completed a header and this invention for stabilization being attained further that the emulsification cosmetics which are easily excellent in transparence thru/or a translucent feel are obtained, and by blending a hydrophilic surfactant further by blending combining the silicon oil and the silicone system surfactant which have specific viscosity, as a result of repeating research wholeheartedly.

[0005] That is, this invention is the following component (A) and (B), and (A). Silicon oil whose kinematic viscosity in 25 degree C is 10 or less cSts (B) The surfactant which has a silicone chain is contained and the emulsification cosmetics to which an appearance is characterized by transparence thru/or the translucent thing are offered.

[0006]

[Embodiment of the Invention] In this invention, "transparence thru/or translucent" mean the thing of the field of transparencies 20-100, when the transparency of distilled water is set to 100 as control using the spectrophotometer (UV-160) by Shimadzu Corp.

[0007] As silicon oil whose kinematic viscosity in 25 degrees C of a component (A) is 10 or less cSts, methyopolysiloxane, a methylphenyl polysiloxane, a methyl cyclo polysiloxane, an alkyl denaturation polysiloxane, a fluorine denaturation polysiloxane, etc. are mentioned, and especially the thing of 6 or less cSt of kinematic viscosity is desirable. If the viscosity of silicon oil exceeds 10cSt(s), stability will fall remarkably.

[0008] These components (A) are independent, or although it can be used combining two or more sorts, especially the loadings to this invention emulsification cosmetics are not limited but it can choose suitably according to a pharmaceutical form, 0.1 - 20 % of the weight is especially desirable 0.1 to 40% of the weight.

[0009] As a silicone system surfactant of a component (B) Polyether denaturation organopolysiloxane,

amino denaturation organopolysiloxane, alkyl glyceryl ether denaturation organopolysiloxane, etc. are mentioned. As the commercial item KF-351A which is polyoxyethylene denaturation methyopolysiloxane, KF-353A, KF-354A, KF-355A, KF-618A, KF-945A, KF-6011, KF-6013, KF-6015, KF-6016, KF-6017 (above) The Shin-etsu chemistry company make, SH-3773C, SH-3772C, SH-3775C (above) They are Toray Industries silicone company make and polyoxyethylene polyoxypropylene denaturation methyopolysiloxane. KF-352A, KF-615A, KF-6008, KF-6012 (above, the Shin-etsu chemistry company make), TSF-4703 that are amino denaturation organopolysiloxane, TSF-4704 (above, Toshiba Silicone make), etc. are mentioned. Polyether denaturation organopolysiloxane is [ among these ] desirable.

[0010] It is independent, or these components (B) can be used combining two or more sorts, and the loadings to this invention emulsification cosmetics have 10 or less % of the weight desirable [ components ] 20 or less % of the weight especially from the point of safety. Moreover, as for the weight ratio of a component (A) and a component (B), (A):(B) = 1:0.01-1:2 from a viewpoint of stability, especially 1:0.02-1:1 are desirable.

[0011] The emulsification cosmetics of this invention can stabilize a system further by blending a hydrophilic surfactant as a component (C) further. As this hydrophilic surface active agent, as a nonionic surfactant, polyoxyethylene castor oil, Polyoxyethylene hydrogenated castor oil, lauric-acid polyoxyethylene hydrogenated castor oil, Polyoxyethylene castor oil or hydrogenated-castor-oil derivatives, such as isostearic acid polyoxyethylene hydrogenated castor oil and polyoxyethylene hydrogenated-castor-oil pyroglutamic acid isostearic acid diester; Polyoxyethylene sorbitan monolaurate, Polyoxyethylene sorbitan monopalmitate, polyoxyethylenesorbitan monostearate, Polyoxyethylene sorbitan fatty acid ester, such as polyoxyethylene sorbitan monoisostearate and polyoxyethylene sorbitan tetra-oleate; Polyoxyethylene glyceryl monostearate, Fatty acid ester of polyoxy ethylene glycol, such as polyoxyethylene glyceryl monoisostearate and polyoxyethylene glyceryl TORIISO stearate; The polyoxyethylene lauryl ether, The polyoxyethylene hexyl DESHIRU ether, the polyoxyethylene cetyl ether, Polyoxyethylene stearylether, polyoxyethylene octyldodecyl ether, Polyoxyethylenebehenyl ether, the polyoxyethylene nonylphenyl ether, Polyoxyethylene alkyl ether, such as polyoxyethylene polyoxypropylene decyl tetradecyl ether; Others [ surfactants /, such as polyoxyethylene fatty-acid-ester /, such as polyoxyethylene monooleate, /, / polyoxyethylene addition mold ], Polyglycerin alkyl ether, polyglyceryl fatty acid ester, sucrose fatty acid ester, etc. are mentioned. As an anionic detergent Polyoxyethylene alkyl sulfate system surfactants, such as polyoxyethylene lauryl ethereal sulfate triethanolamine; Lauroyl sarcosine sodium, N-acylamino acid chloride system surface active agents, such as lauroyl methyl alanine sodium; Polyoxyethylene lauryl ether sodium phosphate, Polyoxyethylene cetyl ether sodium phosphate, a dipolyoxy ethylene alkyl ether phosphoric acid, A Tripoli oxyethylene alkyl ether phosphoric acid, a dipolyoxy ethylene nonylphenyl ETERURIN acid, Polyoxyethylene-alkyl-ether phosphate system surfactants, such as polyoxyethylene lauryl ether sodium phosphate and dipolyoxy ethylene lauryl ETERURIN acid sodium, etc. are mentioned. As an amphoteric surface active agent An alkyl betaine, an alkylamide betaine, an alkylamide betaine, etc. are mentioned. As a cationic surfactant JI long-chain alkyl quarternary ammonium salt, mono-long-chain alkyl quarternary ammonium salt, JI long-chain alkyl polyoxyethylene quarternary ammonium salt, bis(hydroxyalkyl) quarternary ammonium salt, the quarternary ammonium salt that has an amide/ester bond are mentioned. A polyoxyethylene addition mold nonionic surface active agent is desirable, and the thing of 10-60 has [ among these ] the especially desirable number of ethylene oxide addition mols.

[0012] These components (C) are independent or can be used combining two or more sorts. Moreover, the loadings to a component (B) and this invention emulsification cosmetics as the total quantity of the surfactant of (C) have 10 or less desirable % of the weight 20 or less % of the weight especially from the point of safety. Moreover, as for the weight ratio of a component (B) and a component (C), (B):(C) = 1:10-1:0.5 from a viewpoint of stability, especially 1:5-1:2 are desirable.

[0013] The component generally blended with emulsification cosmetics at the above-mentioned component (A), (B), and the (C) list in addition to water can be suitably blended with the emulsification

cosmetics of this invention in the range which does not spoil the effectiveness of this invention. As such a component, for example A mica, talc, a sericite, a kaolin, Extenders, such as nylon powder, poly methyl silsesquioxane, and a barium sulfate; Titanium oxide, These fine particles Inorganic pigments, such as a zinc white and an iron oxide; Siliconization, metal soap processing, Fine particles which carried out surface hydrophobing processing, such as N-acyl glutamic-acid processing; The shape of a solid-state, liquefied paraffin, Solid paraffin, a micro crystallin wax, vaseline, a ceresin, Hydrocarbons, such as an ozokerite and montan wax; An olive, the ozokerite, carnauba wax, Vegetable fat and oil, such as lanolin and a spermaceti, animal fat and oil, or a low; Stearin acid, A palmitic acid, oleic acid, glycerol monostearin acid ester, Glycerol distearic acid ester, glycerol mono-oleate, Isopropyl myristic-acid ester, isopropyl stearic acid ester, Fatty acids or its ester, such as butyl stearic acid ester; Ethyl alcohol, Isopropyl alcohol, cetyl alcohol, stearyl alcohol, Alcohols, such as palmityl alcohol and hexyl dodecyl alcohol; A glycol, The polyhydric alcohol which has a moisturization operation of a sorbitol etc.; A whitening agent, a painkilling antiphlogistic, Drug effect components, such as an antipruritic agent, a sterilization disinfectant, an astringent, an emollient, and a hormone drug; Methyl cellulose, Thickeners, such as ethyl cellulose, a carboxymethyl cellulose, polyacrylic acid, tragacanth, an agar, and gelatin; in addition to this, emulsion stabilizer, a chelating agent, an ultraviolet-rays defense agent, pH regulator, antiseptics, coloring matter, perfume, etc. are mentioned.

[0014] Although the emulsification cosmetics of this invention can be manufactured according to a conventional method, and it will not be limited especially if it is emulsification mold cosmetics as the gestalt, oil-in-water type emulsification cosmetics are desirable, for example, face toilet, an essence, a cream, a milky lotion, makeup dropping, etc. are mentioned.

[0015]

[Example] Although an example is given and this invention is hereafter explained further to a detail, this invention is not limited to these.

[0016] The various emulsification cosmetics of a formula shown in one to examples 1-29 and example of comparison 5 tables 1-3 were manufactured, and the transparency and a feeling of use were evaluated. This result is collectively shown in Tables 1-3.

[0017] <Process> Component a-n of Tables 1-3 was mixed, and it was dropped, stirring with a propeller etc. heating and the thing which dissolved and mixed component o-w to this if needed, and cosmetics were obtained. Under the present circumstances, no emulsifiers (for example, a high-pressure homogenizer, an ultrasonic emulsifier, etc.) which give powerful shearing force were used.

[0018] the <evaluation approach> - transparency: -- or more 75 100 or less range was judged that transparence, and or more 20 less than 75 range are translucent, having measured permeability using the spectrophotometer (UV-160) by Shimadzu Corp., and having used as 100 the transparency of distilled water used as control.

- A feeling of use : the real use test by ten panelists was performed, and the feeling of stickiness of the skin after applying cosmetics to the skin was evaluated. The case where "fitness" and the number concerned were four or less persons about the case where the number which answered was not sticky is five or more persons was made into the "defect."

[0019]

[Table 1]

(重量%)

		実 施 例										
		1	2	3	4	5	6	7	8	9	10	11
a	ポリオキシエチレンオクチルドデシルエーテル(20EO)	—	—	—	—	—	—	—	—	—	—	—
b	ポリオキシエチレンヘキシルデシルエーテル(20EO)	—	—	—	1	—	1	1	1	1	1	1
c	トリイソステアリン酸ポリオキシエチレン硬化ヒマシ油(50EO)	—	—	—	—	—	—	—	—	—	—	—
d	ポリオキシエチレン硬化ヒマシ油(50EO)	—	—	—	—	—	—	—	—	—	—	—
e	ポリオキシエチレンソルビタンモノステアレート(20EO)	—	—	—	—	1	—	—	—	—	—	—
f	ポリオキシエチレン・メチルポリシロキサン共重合体 (東レシリコン社製,SH3775C)	1	—	1	—	—	0.1	0.2	0.5	1	0.2	0.2
g	ポリ(オキシエチレン・オキシプロピレン)・メチルポリシロキサン 共重合体(信越化学工業社製,KF-6008)	—	1	—	0.2	0.2	—	—	—	—	—	—
h	メチルポリシロキサン(粘度: 2 cSt/25°C)	—	—	1	1	1	1	1	1	1	1.5	2
i	メチルシクロポリシロキサン(粘度: 4 cSt/25°C)	1	1	—	—	—	—	—	—	—	—	—
j	メチルポリシロキサン(粘度: 20cSt/25°C)	—	—	—	—	—	—	—	—	—	—	—
k	スクワラン	—	—	—	—	—	—	—	—	—	—	—
l	イソノナン酸イソトリデシル	—	—	—	—	—	—	—	—	—	—	—
m	モノイソステアリン酸モノミリスチン酸ジグリセリル	—	—	—	—	—	—	—	—	—	—	—
n	ジカプリン酸ネオペンチルグリコール	—	—	—	—	—	—	—	—	—	—	—
o	クエン酸	—	—	—	—	—	—	—	—	—	—	—
p	クエン酸ナトリウム	—	—	—	—	—	—	—	—	—	—	—
q	コハク酸	—	—	—	—	—	—	—	—	—	—	—
r	リン酸水素二ナトリウム	—	—	—	—	—	—	—	—	—	—	—
s	86%グリセリン	—	—	—	—	—	—	—	—	—	—	—
t	1,3-ブチレングリコール	—	—	—	—	—	—	—	—	—	—	—
u	エタノール	—	—	—	—	—	—	—	—	—	—	—
v	水	残量	残量	残量	残量	残量	残量	残量	残量	残量	残量	残量
w	キサンタンガム	—	—	—	—	—	—	—	—	—	—	—
評 価	透 明 性 使 用 感	半透明 良好	半透明 良好	半透明 良好	半透明 良好	半透明 良好	半透明 良好	半透明 良好	透明 良好	透明 良好	半透明 良好	半透明 良好
	形 態	白粉末	白粉末	白粉末	白粉末	白粉末	白粉末	白粉末	白粉末	白粉末	白粉末	白粉末

[0020]

[Table 2]

(重量%)

		実 施 例											
		12	13	14	15	16	17	18	19	20	21	22	23
a	ポリオキシエチレンオクチルドデシルエーテル(20EO)	—	—	—	1	1	—	—	—	—	—	—	—
b	ポリオキシエチレンヘキシルデシルエーテル(20EO)	1	1	1	—	—	—	—	—	1	1	1	1
c	トリイソステアリン酸ポリオキシエチレン硬化ヒマシ油(50EO)	—	—	—	—	—	1	—	—	—	—	—	—
d	ポリオキシエチレン硬化ヒマシ油(50EO)	—	—	—	—	—	—	1	—	—	—	—	—
e	ポリオキシエチレンソルビタンモノステアレート(20EO)	—	—	—	—	—	—	—	1	—	—	—	—
f	ポリオキシエチレン・メチルポリシロキサン共重合体 (東レシリコーン社製,SH3775C)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
g	ポリ(オキシエチレン・オキシプロピレン)・メチルポリシロキサン 共重合体(信越化学工業社製,KF-6008)	—	—	—	—	—	—	—	—	—	—	—	—
h	メチルポリシロキサン(粘度: 2 cSt/25℃)	—	—	—	1	—	1	1	1.25	1	1	1	1
i	メチルシクロポリシロキサン(粘度: 4 cSt/25℃)	0.5	1	2	—	1	—	—	—	—	—	—	—
j	メチルポリシロキサン(粘度: 20cSt/25℃)	—	—	—	—	—	—	—	—	—	—	—	—
k	スクワラン	—	—	—	—	—	—	—	—	—	—	0.5	0.5
l	イソノナン酸イソトリデシル	—	—	—	—	—	—	—	—	—	—	—	—
m	モノイソステアリン酸モノミリスチン酸ジグリセリル	—	—	—	—	—	—	—	—	—	—	—	—
n	ジカプリン酸ネオペンチルグリコール	—	—	—	—	—	—	—	—	—	—	—	—
o	クエン酸	—	—	—	—	—	—	—	—	0.5	—	—	—
p	クエン酸ナトリウム	—	—	—	—	—	—	—	—	0.5	—	—	—
q	コハク酸	—	—	—	—	—	—	—	—	—	0.5	—	—
r	リン酸水素二ナトリウム	—	—	—	—	—	—	—	—	—	0.5	—	—
s	86%グリセリン	—	—	—	—	—	—	—	—	10	10	10	5
t	1,3-ブチレングリコール	—	—	—	—	—	—	—	—	—	—	—	5
u	エタノール	—	—	—	—	—	—	—	—	—	5	—	—
v	水	残量	残量	残量	残量	残量	残量	残量	残量	残量	残量	残量	残量
w	キサンタンガム	—	—	—	—	—	—	—	—	—	—	—	—
評 価	透 明 性 使 用 感	半透明 良好	半透明 良好	半透明 良好	半透明 良好	半透明 良好	半透明 良好	半透明 良好	半透明 良好	半透明 良好	半透明 良好	半透明 良好	半透明 良好
	形 態	白粉末	白粉末	白粉末	白粉末	白粉末	白粉末	白粉末	白粉末	白粉末	白粉末	白粉末	白粉末

[0021]

[Table 3]

		実 施 例						比 較 例					(重量%)
		24	25	26	27	28	29	1	2	3	4	5	
a	ポリオキシエチレンオクチルドデシルエーテル(20EO)	—	—	—	—	—	—	—	—	—	—	—	—
b	ポリオキシエチレンヘキシルデシルエーテル(20EO)	1	1	1	2.5	2.5	10	1	—	—	—	—	1
c	トリイソステアリン酸ポリオキシエチレン硬化ヒマシ油(50EO)	—	—	—	—	—	—	—	1	1	—	—	—
d	ポリオキシエチレン硬化ヒマシ油(50EO)	—	—	—	—	—	—	—	—	—	1	—	—
e	ポリオキシエチレンソルビタンモノステアレート(20EO)	—	—	—	—	1	—	—	—	—	—	—	—
f	ポリオキシエチレン・メチルポリシロキサン共重合体 (東レシリコーン社製,SH3775C)	0.2	0.2	0.2	2.5	2.5	10	—	—	—	—	—	0.2
g	ポリ(オキシエチレン・オキシプロピレン)・メチルポリシロキサン 共重合体(信越化学工業社製,KF-6008)	—	—	—	—	—	—	—	—	—	—	—	—
h	メチルポリシロキサン (粘度: 2 cSt/25℃)	1	1	1	5	5	20	1	1	—	1	—	—
i	メチルシクロポリシロキサン (粘度: 4 cSt/25℃)	—	—	—	—	—	—	—	—	1	—	—	—
j	メチルポリシロキサン (粘度: 20cSt/25℃)	—	—	—	—	—	—	—	—	—	—	—	1.0
k	スクワラン	—	—	—	—	—	—	—	—	—	—	—	—
l	イソノナン酸イソトリデシル	0.5	—	—	—	—	—	—	—	—	—	—	—
m	モノイソステアリン酸モノミリスチン酸ジグリセリル	—	0.5	—	—	—	—	—	—	—	—	—	—
n	ジカプリン酸ネオペンチルグリコール	—	—	0.5	—	—	—	—	—	—	—	—	—
o	クエン酸	—	—	—	—	—	—	—	—	—	—	—	—
p	クエン酸ナトリウム	—	—	—	—	—	—	—	—	—	—	—	—
q	コハク酸	—	—	—	—	—	—	—	—	—	—	—	—
r	リン酸水素二ナトリウム	—	—	—	—	—	—	—	—	—	—	—	—
s	88%グリセリン	10	10	10	10	20	20	—	—	10	—	10	—
t	1,3-ブチレングリコール	—	—	—	—	—	—	—	—	—	—	—	—
u	エタノール	—	—	—	—	—	—	—	—	—	—	—	—
v	水	残量	残量	残量	残量	残量	残量	残量	残量	残量	残量	残量	残量
w	キサンタンガム	—	—	—	3	5	5	—	—	—	—	—	—
評価	透 明 性 使 用 感	半透明 良好	半透明 良好	半透明 良好	半透明 良好	半透明 良好	半透明 良好	白濁 不良	白濁 不良	白濁 不良	白濁 不良	白濁 不良	白濁 不良
	形 態	化粧水	化粧水	化粧水	乳 液	ク リ ャ ム	メイク 落とし	化粧水	化粧水	化粧水	化粧水	化粧水	化粧水

[0022]

[Effect of the Invention] The emulsification cosmetics of this invention are the transparence thru/or the translucent cosmetics which could manufacture without performing a special mechanical process and contained silicon oil in stability.

[Translation done.]